

Fig. 1

SYSTEM AND METHOD FOR FORWARDING PACKETS  
 INVENTOR(S): Bruce LaVigne, Lewis Stephen Kootstra, Mark Gooch  
 Attorney Docket #: HP-100202409-1

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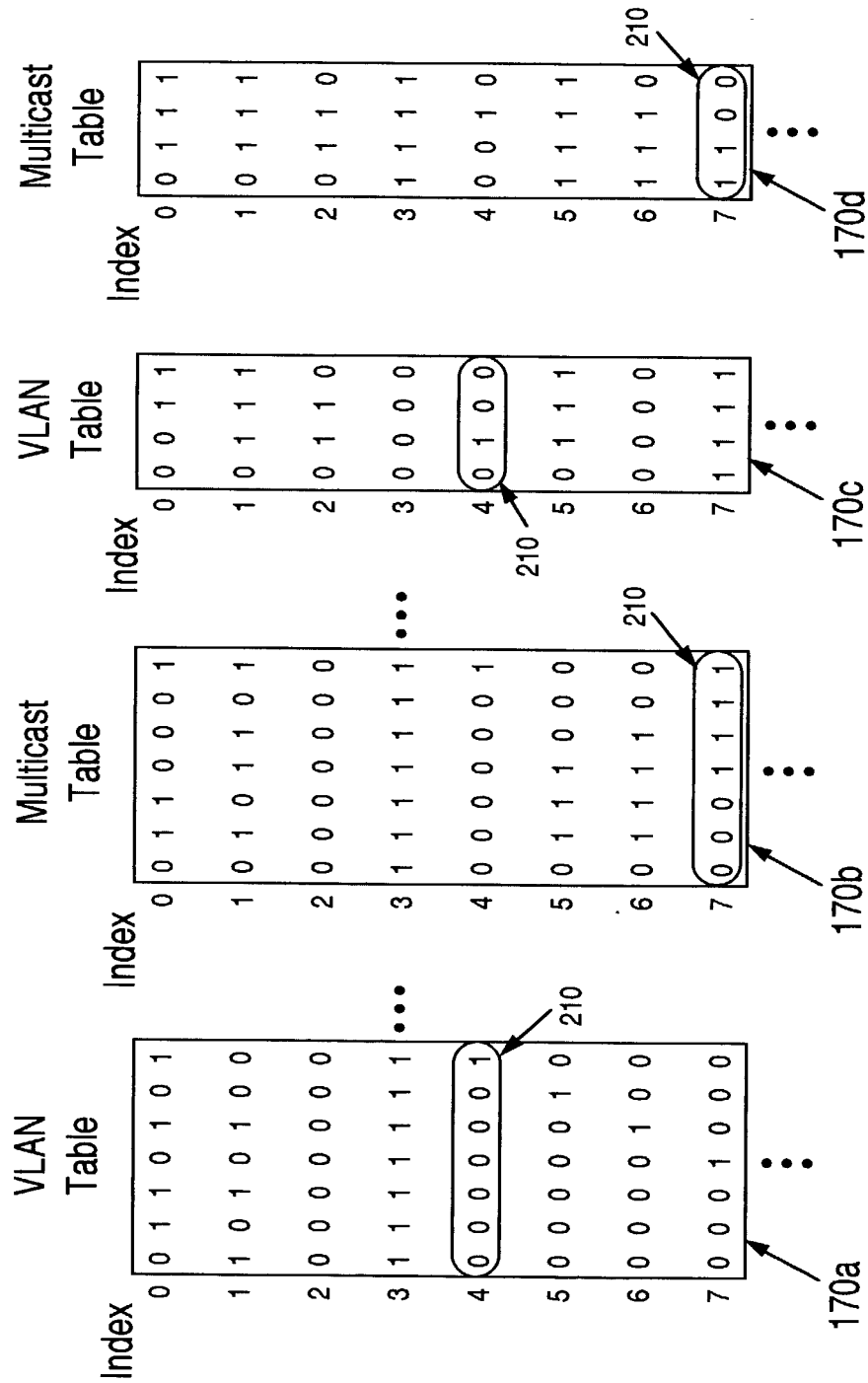


Fig. 2

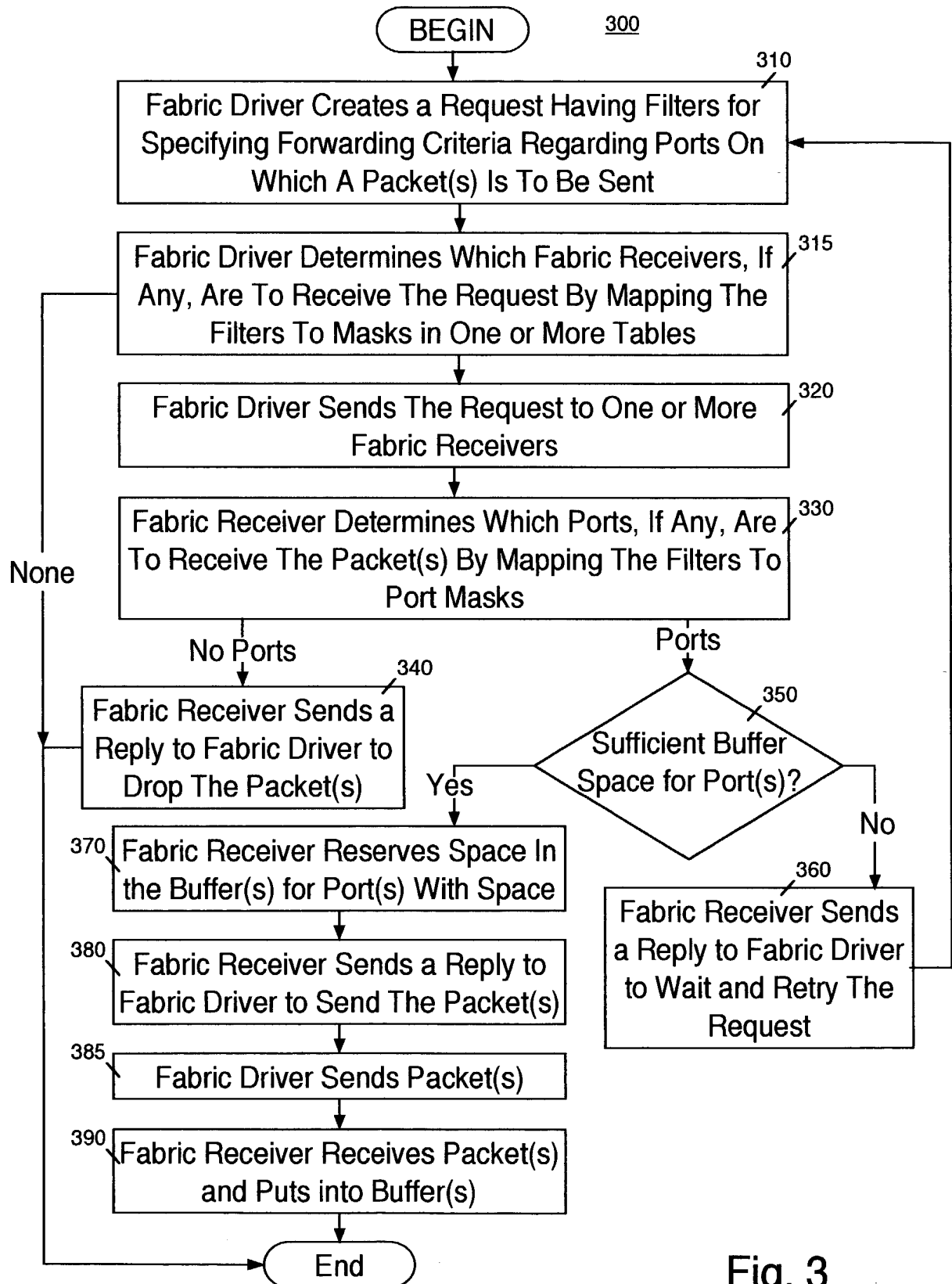
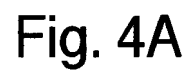


Fig. 3



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Command	Value
Buffer Request A	0x0
Buffer Request B	0x1
Buffer Reply	0x2
Send	0x8
Sendm	0x9
Credit	0xC
Sync	0xF

Fig. 4B

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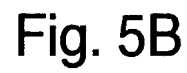
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0x0	X	X	X	logical_port	X
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Fig. 5A



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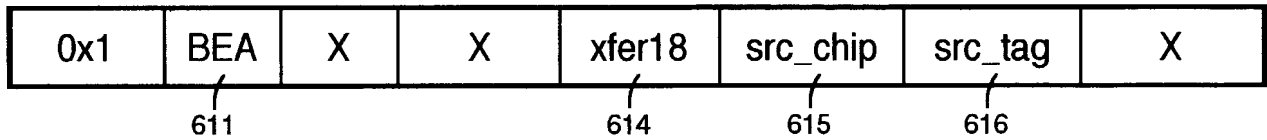


Fig. 6A



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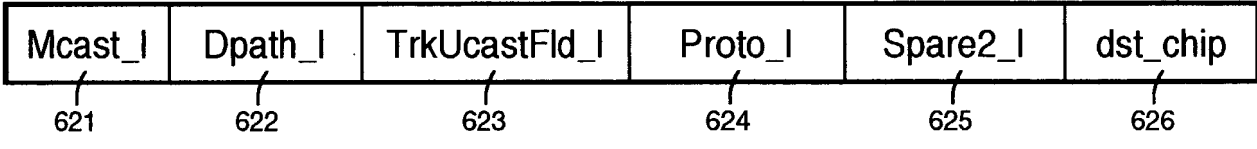


Fig. 6B

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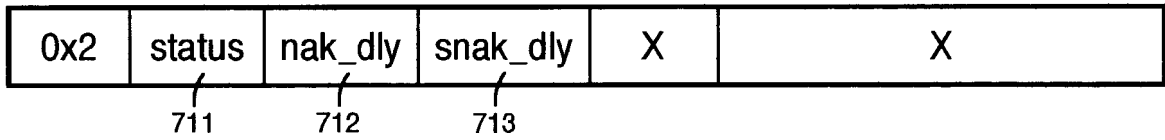


Fig. 7A

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res #	filtered	X	src_chip	src_tag	dst_chip
721	722		724	725	726

Fig. 7B

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Status	Value	Meaning
NACK	2'b00	<p>No buffer was reserved. Another buffer request should be retired after waiting the period indicated by the nak_dly field:</p> <p>00 ==&gt; no delay  01 ==&gt; Unit_Delay  10 ==&gt; 2*Unit_Delay  11 ==&gt; 4*Unit_Delay</p> <p>Each requester maintains its own definition of what a Unit_Delay is. At a minimum, the following Unit_Delay values should be available:</p> <ul style="list-style-type: none"> <li>-0.5uS (64 system clocks)</li> <li>-1.0uS (128 system clocks)</li> <li>-2.0uS (256 system clocks)</li> <li>-4.0uS (512 system clocks)</li> </ul> <p>Note that two_dly fields are supplied. The nak_dly field should be used for situations that are NOT speculative. The snak_dly field should be used for speculative situations. Note that a request can transition from speculative to non-speculative (not head-of-line to head-of-line) while the reply is in flight.</p> <p>These fields should be ignored if the reply is not NACK.</p>
DROP	2'b01	No buffer was reserved, the packet should be dropped.
PARTIAL ACK	2'b10	A buffer was reserved and the packet should be forwarded. Some of the requested output ports will discard the packet due to resource limitations. This response may only occur if the request had its BEA (best effort acceptable) bit set.
FULL ACK	2'b11	A buffer was reserved and the packet should be forwarded. All requested output ports will accept the packet.

**Fig. 7C**

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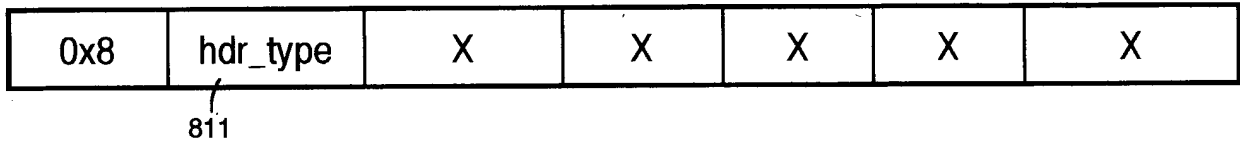


Fig. 8A

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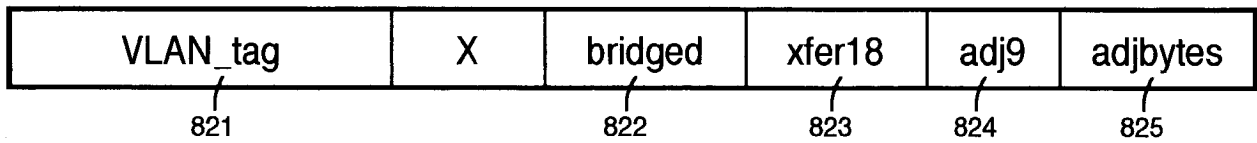
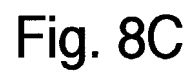


Fig. 8B



900

Type	Value	Meaning
Normal	2'b00	Normal Header, data immediately follows the send command.
Extended	2'b01	Extended Header #1, 3 144 bit words follow the header, then data begins
Reserved	2'b1X	Reserved for future use.

Fig. 9